

CLAIMS

We claim:

1. In a multi-shot injection mold having at least a first shot cavity and a second shot cavity for receiving injected plastic material to form a completed plastic part which is ejected, the improvement comprising:
an indexing plate rotatably mounted on the injection mold for
5 injecting the first shot cavity and second shot cavity prior to ejection of the completed plastic part.
2. The improvement of claim 1, wherein the injection molding machine is provided with at least a first shot cavity and a second shot cavity, and an ejector station.
3. The improvement of claim 1, wherein the indexing plate has a first core retainer, a second core retainer, and a third core retainer, each of which is selectively cooperable with the first shot cavity, the second shot cavity and the ejector station.
4. The improvement of claim 1, wherein the indexing plate is rotatable in 120° increments.
5. The improvement of claim 1, wherein the injection molding machine further includes a means for incrementally advancing the indexing plate.
6. The improvement of claim 1, wherein the injection mold is equipped with an extension plate having a pair of guide bars with stops fixed thereon and an ejector plate is slidably mounted on the guide bars.

7. The improvement of claim 6, wherein the ejector plate includes an ejector cradle for stripping completed plastic components from the indexing plate.

8. The improvement of claim 6, including a limit switch for controlling the travel of the ejector plate.

9. The improvement of claim 1, wherein the completed plastic components are in the form of over-molded pen barrels.

10. A rotary indexing plate assembly used in producing multi-shot plastic components, the assembly comprising:

a support plate having a first shot cavity and a second shot cavity fixed thereon for receiving plastic injection material to form a first shot part and a
5 second shot part, respectively;

an ejector station including an ejector plate having an ejector cradle slidably mounted relative to a portion of the support plate; and

an indexing plate rotatably mounted on the support plate, the indexing plate having a first core retainer, a second core retainer and a third core retainer,
10 each of the retainers being selectively alignable with the first shot cavity, the second shot cavity and the ejector station;

whereby, when plastic injection material fills the first shot cavity and the second shot cavity, completed plastic components are simultaneously removed via the ejector plate.

11. The rotary indexing plate assembly of claim 10, wherein the indexing plate is rotatable incrementally to move the first shot part from the first shot cavity to the second shot cavity, move the second shot part from the second shot cavity to the ejector station and move the core retainer from the ejector station
5 to the first shot cavity.

12. A method for producing a two-shot plastic component, the method comprising the steps of:

providing a fixed injection molding machine having a support plate equipped with a first shot cavity for holding a first shot component, a second shot
5 cavity for holding a second shot component and an ejector station for removing a two-shot plastic component;

providing an indexing plate rotatably mounted on the support plate and having a first core retainer, a second core retainer, and a third core retainer, each of which is selectively alignable with the first shot cavity, the second shot
10 cavity and the ejector station;

injecting plastic material into the first shot cavity and the second shot cavity;

rotating the indexing plate to move the first shot part to the second shot cavity, move the second shot part to the ejector station and move the third core
15 retainer to the first shot cavity; and

further injecting plastic material into the first shot cavity and the second shot cavity regardless of removal of the two-shot plastic component from the ejector station.